AMENDMENTS TO THE CLAIMS

Please amend the claims without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows.

Please cancel claims 4, 6, 7, 10-14, 16, 19-22, 24 and 25 without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents.

1-27. (Canceled)

Please add the following new claims:

28. (New) A gene delivery vector consisting of a bacterium belonging to the genus Bifidobacterium, which proliferates under anaerobic conditions and transformed so that it can produce a protein (a) having an anti-tumor activity, or a protein (b) having an activity of converting a precursor of an antitumor substance (P) into an antitumor substance; consisting of a bacterium belonging to the genus Bifidobacterium selected from the group consisting of Bifidobacterium adolescentis, Bifidobacterium longum, Bifidobacterium bifidum, Bifidobacterium pseudolongum, Bifidobacterium thermophilium, Bifidobacterium breve, and Bifidobacterium infantis; having a promoter and terminator involved in expressing a gene encoding a histone-like DNA-binding protein of the bacterium belonging to the genus Bifidobacterium; and transformed with an expression vector in which an DNA encoding the protein (a) having the anti-tumor activity, or the protein (b) having an activity of converting a precursor of an antitumor substance (P) into the antitumor substance is integrated in the downstream of the promoter.

29. (New) The gene delivery vector according to claim 28, wherein the promoter and terminator is a promoter and terminator involved in expressing a gene encoding a histone-like DNA binding-protein derived from Bifidobacterium longum.

30. (New) The gene delivery vector according to claim 28, wherein the promoter and terminator is a DNA located at 1 to 192 positions, and 472 to 600 positions respectively in the nucleotide sequence shown by SEQ ID No: 1.

31. (New) The gene delivery vector according to claim 28, wherein the protein (b) having an activity of converting a precursor of an antitumor substance (P) into the antitumor substance is a protein selected from the group consisting of cytosine deaminase, nitroreductase, herpes simplex virus type 1 thymidine kinase and β-glucuronidase.

32. (New) The gene delivery vector according to claim 28, wherein the protein (b) having an activity of converting a precursor of an antitumor substance (P) into the antitumor substance is cytosine deaminase.

33. (New) The gene delivery vector according to claim 28, which is a bacterium belonging to the genus Bifidobacterium selected from the group consisting of Bifidobacterium adolescentis, Bifidobacterium longum, Bifidobacterium bifidum, and Bifidobacterim infantis.

34. (New) The gene delivery vector according to claim 33, being Bifidobacterium longum.

35. (New) The gene delivery vector according to claim 34, being Bifidobacterium longum 105-A/pBLES100-S-eCD (FERM BP-7274).

36. (New) A pharmaceutical composition for treating a solid tumor, comprising a gene delivery vector consisting of a bacterium belonging to the genus Bifidobacterium, which proliferates under anaerobic conditions and transformed so that it can produce a protein (a) having an anti-tumor activity, or a protein (b) having an activity of converting a precursor of an antitumor substance (P) into an antitumor substance; consisting of a bacterium belonging to the genus Bifidobacterium selected from the group consisting of Bifidobacterium adolescentis, Bifidobacterium longum, Bifidobacterium bifidum, Bifidobacterium pseudolongum, Bifidobacterium thermophilium, Bifidobacterium breve, and Bifidobacterium infantis; having a promoter and terminator involved in expressing a gene encoding a histone-like DNA-binding protein of the bacterium belonging to the genus Bifidobacterium; and transformed with an expression vector in which an DNA encoding the protein (a) having the anti-tumor activity, or the protein (b) having an activity of converting a precursor of an antitumor substance (P) to an antitumor substance is integrated in the downstream of the promoter.

37. (New) The pharmaceutical composition for treating a solid tumor according to claim 36, wherein the protein (b) having an activity of coverting a precursor of an antitumor substance (P) into the antitumor substance is cytosine deaminase, and the precursor of an antitumor substance (P) is 5-fluorocytocine.

38. (New) The pharmaceutical composition for treating a solid tumor according to claim 36, wherein the gene delivery vector is Bifidobacterium longum 105-A/pBLES100-S-eCD (FERM BP-7274).

39. (New) A method for treating a solid tumor, which comprises administering to a subject a pharmaceutical composition for treating a solid tumor comprising a gene delivery vector consisting of a bacterium of the genus Bifidobacterium, which proliferates under anaerobic conditions and transformed so that it can produce a protein (a) having an antitumor activity or a protein (b) having an activity to converting a precursor of an antitumor substance into the antitumor substance, consisting of a bacterium belonging to the genus Bifidobacterium selected from the group consisting of Bifidobacterium adolescentis, Bifidobacterium longum, Bifidobacterium bifidum, Bifidobacterium pseudolongum, Bifidobacterium thermophilium, Bifidobacterium breve, and Bifidobacterium infantis; having a promoter and terminator involved in expressing a gene encoding a histone-like DNA-binding protein of the bacterium belonging to the genus Bifidobacterium; and transformed with an expression vector in which an DNA encoding the protein (a) having an anti-tumor activity, or the protein (b) having an activity of converting a precursor of an antitumor substance (P) into the antitumor substance is integrated in the downstream of the promoter, wherein the protein (a) having an antitumor activity or a protein (b) having an activity to converting a precursor of an antitumor substance into the antitumor substance is produced thereby treating the solid tumor.

40. (New) The method for treating a solid tumor according to claim 39, wherein the promoter and terminator is a promoter and terminator involved in expressing a gene encoding a histone-like DNA-binding protein derived from Bifidobacterium longum.

41. (New) The method for treating a solid tumor according to claim 39, wherein the promoter and terminator is a DNA located at the 1 to 192 positions and at the 472 to 600 positions respectively in the nucleotide sequence shown by SEQ ID NO: 1.

42. (New) The method for treating a solid tumor according to claim 39, wherein the protein (b) having an activity to converting a precursor of an antitumor substance (P) into the antitumor substance is a protein selected from the group consisting of cytosine deaminase, nitroreductase, herpes simplex virus type 1 thymidine kinase and β-glucuronidase.

43. (New) The method for treating a solid tumor according to claim 39, wherein the protein (b) having an activity to converting a precursor of an antitumor substance (P) into the antitumor substance is cystosine deaminase.

44. (New) The method for treating a solid tumor according to claim 39, wherein the bacterium belonging to the genus Bifidobacterium is selected from Bifidobacterium adolescentis, Bifidobacterium longum, Bifidobacerium bifidum, and Bifidobacterium infantis.

45. (New) The method for treating a solid tumor according to claim 39, wherein the bacterium belonging to the genus Bifidobacterium is Bifidobacterium longum.

46. (New) The method for treating a solid tumor according to claim 39, wherein the bacterium belonging to the genus Bifidobacterium is Bifidobacterium longum 105-A/pBLES 100-S-eCD (FERM BP-7274).